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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY-DOCKET NO.	CONFIRMATION NO.
09/986,063	11/07/2001	Chung-Hee Chang	50103-404	4803

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11/17/2003

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EXAMINER

FALASCO, LOUIS V

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 11/17/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

CH09

Office Action Summary	Application No. 09/986,063	Applicant(s) CHANG ET AL.	
	Examiner Louis Falasco	Art Unit 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Brief of 8/27/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 14-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6, 9, 10, 11, 12, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 5, 7, 8 and 13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other: ____ |

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PAPERS RECEIVED

Applicant's Brief on Appeal and Notice of Appeal are acknowledged as papers No. 7 and No. 8.

CLAIMS

The claims under consideration remain 1 to 13, 19 and 20.

ACTION

In view of the appeal brief filed on 8/27/03, PROSECUTION IS HEREBY REOPENED.

A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111, since this Office action is non-final or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

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Statutory Basis

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Rejection

In response to applicants' Brief on Appeal Rejections made in the previous Office action have been withdrawn.

The following new rejection is made:

Claims 1, 2, 6, 11, 12 and 19 and 20 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the subject matter of claims 3, 4, 5, 7, 8 and 13, which includes a magnetically soft underlayer and specific **Ru** based single or bi-layer interlayer and **CoCr** based magnetically hard perpendicular recording layer providing a negative nucleation field H_n , remnant square about 1 and a high coercivity of at least 5,000 Oe does not reasonably provide enablement for the subject matter of claims 1, 2, 6, 9, 10, 11, 12, 19 and 20, which do not include any intermediate layer materials. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

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The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The instant disclosure fails to teach one of ordinary skill in the art how to make and use the invention without undue experimentation.

1. The breadth of enablement is not commensurate in scope with the claims.

The amount of direction presented and the number of working examples provided in the specification is very narrow compared with the wide breadth of the claims at issue and the skilled artisan is not given sufficient direction nor guidance in the disclosure.

The rejected claims require magnetically soft interlayer and non-magnetic layer and CoCr based hard recording layer claimed so as to have a negative nucleation field remnant squareness of about 1 and high coercivity of at least 5,000 Oe.

Applicants point out the improvement is based on materials that produce a feature of the medium:

“... the present invention is based upon the discovery that the performance characteristics/properties ... may be improved ... by selection of the alloy composition of the magnetic recording layer and structure / composition of the non-magnetic inter-layer ... and the magnetic soft interlayer. A key feature of the present invention is the selection of particular magnetic alloy-based perpendicular recording media with desirable characteristics ...” *as explained on page 12 ln 14 through page 13 ln 2 of the instant specification.*

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This selection of combinations of alloys and position does not bespeak of a routine procedure to discover combinations of material and dimensions, but of extensive experimentation and development work to find what materials and dimensions would achieve the results claimed.

"The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation." *United States v. Telectronics, Inc.*, 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988)

The reasonably skilled worker in the art could not make and use the invention of these claims from the instant disclosure coupled with information known in the prior art without undue experimentation.

2. The art is unpredictable.

Applicants have disclosed only a species in an art that is unpredictable.

Applicants point out the lack of predictability in the art, indicating:

the 'materials . . . and the thickness' to achieve the results being claimed could not have been a mere matter of choice from what was known in the art - *from the Brief page 9 last sentence of the first paragraph.*

Admittedly this would not merely be routine experimentations. A difficult, time consuming procedure would be needed to identify a compound out of the many of the many possible components and a thickness correlated with the material selections in order to practice what is within the scope of a claims.

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Given the lack of expectedness, undue extensive experimentation would be required for the direction in which the experimentation should proceed in order to discover these materials and thickness. The specification does not provide a reasonable amount of guidance to one of ordinary skill to find these out.

“It is not enough that a person skilled in the art, by carrying on investigations along the line indicated in the instant application, and by a great amount of work eventually might find out how to make and use the instant invention. The statute requires the application itself to inform, not to direct others to find out for themselves.” *In re Scarbrough*, 500 F.2d 560, 565, 182 USPQ 298, 301-02 (CCPA 1974)

Considering the lack of guidance provided in the instant specification for the breadth of the claims and the low level of predictability in this art, extrapolating to what materials and dimensions would achieve the instant results claimed would require undue experimentation.

OBJECTION TO CLAIMS, ALLOWABLE SUBJECT MATTER

Claims 3, 4, 5, 7, 8 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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CONCLUSION

The claims are 1 to 20.

Claims 14 - 18 stand withdrawn as a result of Restriction.

Claims 1, 2, 6, 9, 10, 11, 12, 19 and 20 have been rejected.

Those claims not rejected are considered to be enabled.

INQUIRES

Any inquiry concerning this communication from the examiner should be directed to examiner Louis Falasco, whose telephone number is 703.305-6974.

The examiner can normally be reached M-F 9:30 AM - 6:00 PM.

- If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Paul Thibodeau may be reached at 703.308-2367.
- The Fax phone numbers for the organization where this application or proceeding is assigned are: 703.872-9310 for regular communications and 703.872-9311 for After Final communications.
- An inquiry of a general nature or relating to status of this application or proceeding should be directed to the TC 1700 receptionist whose telephone number is 703.308-0651.

LF

11/03



STEVAN A. RESAN
PRIMARY EXAMINER